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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/492,451	01/27/2000	Takaaki Inoue	4406-0011-2	9886

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

HANDY, DWAYNE K

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 03/20/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/492,451

Applicant(s)

Inoue

Examiner
Dwayne K. Handy

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1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-12 and 14-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Petschek et al. (5,389,339). Petschek et al. (5,389,339) teaches a biomolecule preparation device which is automated to perform reagent addition and pipetting, as well as nucleic acid separation. The device is best shown in Figures 1B and 2E, and described in columns 4, 5, and 8. From column 4: "Device (10) includes centrifuge assembly (12), pipette tip rack or holder assembly (14)...reagent add system assembly (20), and pipette arm assembly (18). Computer (22) in conjunction with memory (24) controls the operation of the assemblies. User control keys assembly (28) may be used to display the status of the device and/or display or signal an alarm (for example, indicating a problem with a device assembly, or a low liquid level). Device (10) includes in total all the process assemblies to allow the device to be used to automatically perform nucleic acid separation procedures.

Reagent add assembly (20) accomplishes the addition of one or more reagents to the sample tubes in rotor (30) employing reagent add volume control (56) driven by computer (22),

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also responsive to priming sensors (54), which determine when the reagent fill lines are properly primed. Reagent storage containers (50) having reagent level sensors (52), which may be liquid level sensors, or floats. Reagent volume may alternatively be determined by measuring the volume of empty space in the reservoir. The reagent add assembly is shown in detail in Figure 2e and described in columns 7, line 56 to column 8, line 60. The assembly includes the reagent bottle (50) with level sensor (122) for feeding the sample tube (112a) via feed line (129). Petschek mentions several ways of determining reagent levels and providing for control of the dispensing in response to instructions resulting from calculations made by the controller.

The Examiner believes these teachings show an apparatus with a dispenser element “configured to” perform the operations recited in many of the rejected claims. In many of these claims, applicant has claimed an apparatus that is “configured to” perform a certain function. For example, claim 7 recites a synthesizer with a dispensing amount calculator that is “configured to calculate an accumulated dispensing amount by accumulating the dispensing amount of each of the liquid...”. Claim 4 recites a liquid shortage detector “configured to calculate the dispensing amount...” This type of phrase appears to be a recitation of an intended use of the device and its control element and perhaps would be better suited to method claims if applicant wishes for these phrases to carry patentable weight. To meet this limitation in the apparatus claims in their current form, the prior art merely needs to have the necessary structural elements and need not recite the same use of that element from the instant claim. Petschek contains a plurality of reaction vessels, a liquid dispenser, a plurality of liquid vessels with level sensors and a

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controller that determines reagent volumes through sensor readings and calculations. This is an apparatus which is "configured to" perform the steps recited in the instant claims. Therefore, claims 1-12 and 14-21 are rejected.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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5. Claims 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petschek et al. (5,389,339) in view of Stylli et al. (6,472,218). Petschek, as described above in paragraph 2, teaches every element of claim 13 except for a plurality of dispensers. Stylli recites a system for rapidly identifying chemicals containing several integrated modules for examining compounds in sample containers. The modules include a storage and retrieval module, sample distribution module, a sample transporter, a reaction module and a data processor. In describing the reagent dispenser in column 21, Stylli teaches that plurality of dispensers may be used to dispense reagents. It would have been obvious to one of ordinary skill in the art to combine the multiple dispensing devices of Stylli with the device of Petschek. The addition of extra dispensers would speed processing time.

Conclusion


6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Titus (5,902,927) and Goossens et al. (5,551,309) teach a fluid metering apparatus and control/operating method. Zuckermann et al. (5,252,296) disclose a method and apparatus for synthesizing polymers in multiple reaction vessels. The apparatus includes a computer controlled dispensing system. Kilcoin et al. (6,190,619; 6,395,235) show a system for synthesizing chemicals in a plurality of reaction vessels which includes a manifold for fluid dispensing. Heyneker et al. (6,264,891) recites another reaction apparatus with a controlled fluid delivery system. Ridgeway et al. (5,879,628) teach workstations with dispensing units.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwayne K. Handy whose telephone number is (703)-305-0211. The examiner can normally be reached on Monday-Friday from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden, can be reached on (703)-308-4037. The fax phone number for the organization where this application or proceeding is assigned is (703)-772-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0661.


Jill Warden
Supervisory Patent Examiner
Technology Center 1700

dkh

March 17, 2003